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February 1986

Vegetable

Outlook and Situation Report

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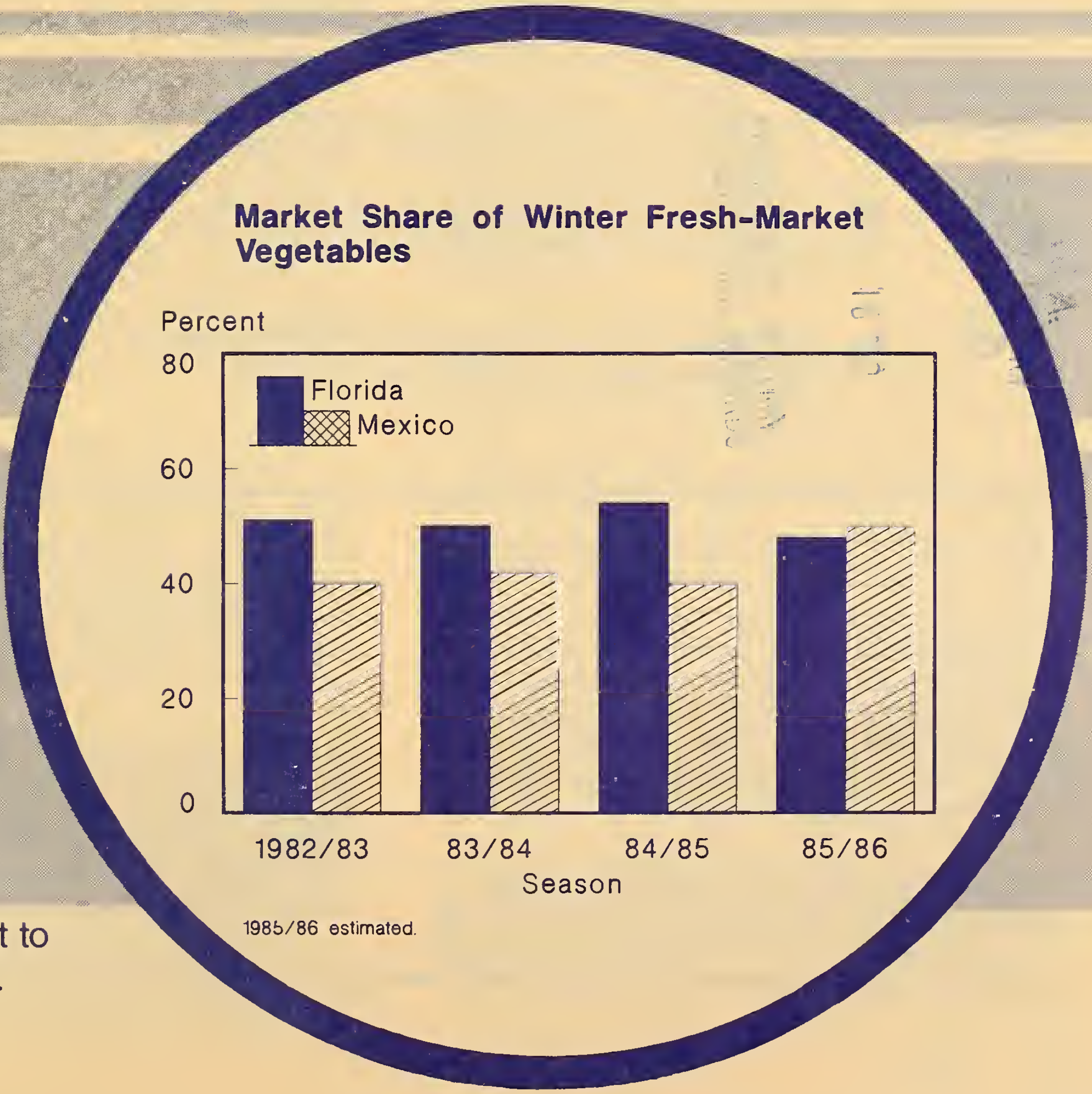

1985/86 estimated.

Florida may lose out to
Mexico this season.

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SUMMARY

The late January cold snap was not severe enough to reduce Florida's winter fresh vegetable supplies. Because Florida producers expanded winter acreage 18 percent to 42,700, production is likely to be around 8 million cwt, up 11 percent from 1985. However, the expansion did not offset an 11-percent acreage reduction in Arizona, California, and Texas, resulting in a 4-percent production decline nationwide. U.S. winter production may be 40 million cwt, down 7 percent from to last year. Because of lower domestic supplies, a shift to Mexican vegetables is likely to cause winter-quarter grower prices to strengthen and force up retail prices.

Because of December's lower supplies, grower prices strengthened, with the price index rising to 186 (1977=100), up 43 percent from November. Growers are likely to continue receiving strong prices into the spring, when fresh-market vegetable supplies traditionally become heavy and growers face a seasonal decline.

Despite the recent price strength, U.S. vegetable grower prices were relatively low in 1985, and as a result growers are not likely to expand 1986 acreage significantly. Also, imports are expected to continue supplementing the U.S. market in 1986 as foreign producers continue to benefit from the relative value of the dollar and lower domestic supplies.

Carryin of canned sweet corn, green beans, and green peas for 1985/86 was 58 percent above a year earlier due to slow movement last season. Depressed 1985 wholesale canned vegetable prices and lower movement meant lower distributor returns. The average wholesale canned vegetable index for 1985 dropped to 247 (1967=100), 3 percent below the previous year.

The 1985/86 processed **tomato carryin** increased one-quarter from last season's 8.7 million cases (24/303's). A 10-percent larger 1984/85 supply led to lower 1985 contracts and a smaller estimated pack. Distributors have increased stocks an average of 20 percent annually, since the tight 6 million cases in 1982/83. Larger stocks in 1985/86 and 7-percent lower production are likely to keep supplies level with last season's 51.6 million cases.

U.S. potato growers will likely receive $1.5 billion for the 1985 crop following the record 350-million-cwt fall harvest. The returns are 20 percent below the $1.86 billion received in 1984. Although the 1985 crop is estimated to be 11 percent larger, the effects of larger supplies will require about a 30-percent lower price to maintain sales volume. Monthly average prices have been well below year-earlier levels during the fall and early-winter months of 1985/86. First-half January prices continued to be higher for processing than for fresh-market potatoes. The seasonal pattern suggests that although stronger prices are expected in the coming months, the 1985/86 season-average price is likely to be around $4.00 per cwt, down from $5.69 last season.

The 1985 sweetpotato crop—one-tenth greater than 1984's—was large enough to depress prices during fall and winter months. The 14-million-cwt crop lowered prices about 50 percent during October to December relative to a year earlier. Therefore, given usual price patterns, the crop's cash value is likely to be down 30 to 35 percent from 1984's $157 million.

In spite of a 6-percent increase in dry bean production this year, prices are likely to continue rising because of improved export outlook. The season-average grower price is expected to be between $19 and $20 per cwt, up from $18.60 last season. Exports during 1985/86 may increase 8 to 10 percent over last season's 6 million cwt.

The 1986 outlook for stronger dry bean prices and modest export growth means a steady to slightly larger acreage of dry beans. With the dim outlook for production alternatives such as grains and oilseeds, producers probably will plant more dry beans next year.

U.S. mushroom production was a record 596 million pounds in 1984/85, up 6 percent from the previous season. Grower returns were slightly above the $494 million in 1983/84.

The Food Security Act of 1985: Does It Affect Vegetables?

The Food Security Act of 1985 covers the 5 crop years from 1986 through 1990, but differs from the Agriculture and Food Act of 1981 in several ways. Major changes in the 1985 Act include the creation of an Acreage Conservation Reserve (ACR) of 40–45 million acres––aimed at reducing erosion––and increased market orientation in agricultural policy.

The 1985 Act will have little direct impact on the vegetable industry in 1986. However, several provisions are likely to favor the vegetable industry. The free–trade theme in the farm bill emphasizes unfair trade practices in foreign countries, and should provide the groundwork for expanding foreign markets by eliminating specific trade barriers.

Another provision directly affecting the industry deals with 13 marketing orders which cover 6 different vegetables. Specifically, the Secretary of Agriculture is required to give Congress 60 days notice before canceling any marketing order. The farm bill also paves the way for more research on post-harvest handling. By increasing marketing efficiency in the long run, farm–gate prices will likely rise and the farm–to–retail price spread will be lowered.

Agricultural commodity policy programs may be important to the vegetable industry. Producers participating in commodity programs who plant at least 50 percent of their permitted acreage––their base minus required set aside––to the program crop will be eligible to receive deficiency payments on 92 percent of the permitted acreage. The underplanted acreage may be planted to a non-program crop. Since only wheat, feed grains, cotton, rice, and soybeans are currently considered program crops, vegetables could be planted on this acreage. This provision is likely to have the greatest impact on those crops which participating farmers have grown in the past, such as dry edible beans, potatoes, and onions.

Lower loan rates for program commodities, for example $1.92 for corn, are likely to accelerate these crop shifts. Farmers are making dry bean planting decisions for 1986/87 based on the highest expected dry bean–to–corn price ratio since 1981/82, when they planted a record 2.4 million acres. Thus, the 1985 Act could result in acreage increases for some vegetable commodities in 1986.

FRESH VEGETABLES

Major States Reduce 1986 Winter Acreage

Fresh–market vegetable prices for the 1986 winter season are likely to be strong as U.S. growers reduced acreage because of low prices in much of 1985. Arizona, California, and Texas decreased acreage of broccoli, carrots, cauliflower, celery, sweet corn, lettuce, and tomatoes 11 percent, more than enough to offset a 10–percent increase in Florida. The overall 177,800 acres for harvest is 4 percent below 1985. An ERS estimate of seasonal production, using 3-year annual average yields, is about 40 million cwt, 7 percent below last winter. Because of lower domestic supplies and more reliance on imports, winter quarter grower prices and retail prices are likely to strengthen.

California growers reduced acreage 9 percent from winter 1985 to 89,900 acres. The largest reduction was in lettuce, the most important California fresh vegetable, down 18 percent to 29,300 acres. Broccoli acreage dropped 4 percent to 28,500 acres. Winter–season carrot and celery acreages also were cut in 1986, 5 and 16 percent, to 17,100 and 4,700 acres, respectively. Cauliflower, however, rose 8 percent to 10,300 acres.

Arizona and Texas growers reduced lettuce and broccoli acreage an average 8 percent to 31,700 and 10,300 acres, respectively. Arizona's lettuce acreage

Table 1.--Fresh vegetables: Winter season harvested acreage of principal crops, 1985-86 1/

Item	Area for harvest in major States		
	1985	1986	1986 as percent of 1985
	1,000 acres		Percent
Broccoli 2/	29.8	28.5	96
Carrots 2/	34.2	33.3	97
Cauliflower 2/	9.5	10.3	108
Celery 2/	9.3	8.2	88
Sweet corn	5.5	7.8	142
Lettuce	83.1	73.8	89
Tomatoes	13.6	15.9	117
Total 3/	185.0	177.8	96

1/ Winter season harvest period includes November to May in some States. 2/ Includes fresh market and processing. 3/ May not add to total because of rounding.

SOURCE: Vegetables, Statistical Reporting Service, USDA.

dropped 13 percent to 31,700 acres. Texas' lettuce acreage dropped 45 percent from 1985 to 2,300, while Texas' broccoli acreage fell 13 percent to 8,000.

Florida celery was the only item in the State to show a decrease, to 3,500 acres from last year's 3,700. Carrot, sweet corn, lettuce, and tomato acreage rose an average 5 percent. Tomatoes, which comprise 41 percent of Florida's winter-season acreage, rose 17 percent to 15,900 acres, compared to last year's freeze-reduced 13,600. The other items increased an average 23 percent: carrots to 8,200 acres; sweet corn to 7,800; and lettuce to 7,300. This increase will likely put production of the four vegetables at 8 million cwt, 11 percent above 1985.

Mexico's Winter Fresh Supplies Increase

During the winter, Florida competes directly with western Mexico for the U.S. fresh vegetable market. Florida's market share has declined in recent years as freezes and the weaker peso have improved Mexico's position. See special article in this issue for more detailed information. Shipments data between October and January indicated that the 1985/86 market season may mark the first time that Mexico's market share surpasses Florida's (see cover graph). Larger U.S. imports to date may have resulted from earlier plantings and favorable yields.

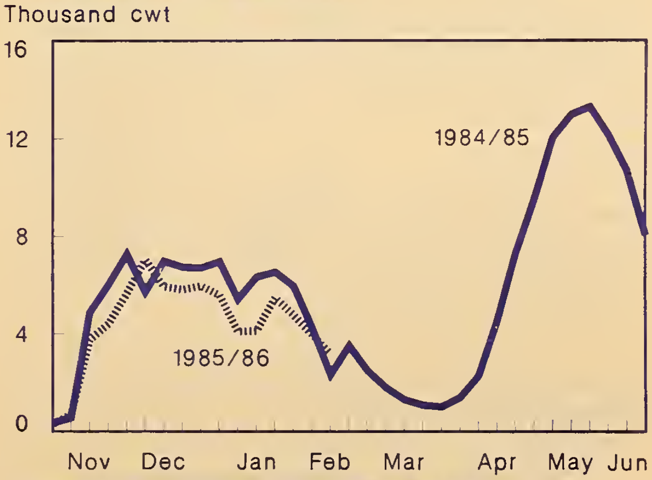
Florida's fresh-market shipments of snap beans, cucumbers, eggplant, green peppers, squash, and tomatoes are running 14 percent behind last year's mid-October through January period. Therefore, Florida will likely ship 14 percent less for the 1985/86 October-June season. Mexico has increased its exports of the 6 winter vegetables by 23 percent during the same period.

Prices Likely to Go Higher

Growers responded to 1985's low summer prices by reducing fall-quarter fresh vegetable acreage 7 percent. Shipments during the October-through-December period dropped 7 percent below fourth-quarter 1984, and helped raise average prices in December. The fourth-quarter 1985 average index of grower prices for fresh-market vegetables will average 140 (1977=100), up 23 percent over last year. Because winter-quarter acreage of the major fresh vegetables was cut 4 percent from a year earlier, the first-quarter 1986 index is likely to average about 135, 4 percent above first-quarter 1985.

Supplies of fresh-market vegetables for first-half 1986 are likely to be above the first-half 1985 level of 133 million cwt, as Mexican supplies are likely to fill any domestic acreage reductions. U.S. vegetable

Weekly Shipments of Florida Winter Fresh-Market Vegetables



Includes green beans, cucumbers, eggplant, green peppers, squash, and tomatoes.

growers are not likely to expand acreage significantly in first-half 1986 because of lower grower returns in 1985. Growers in California, Texas, and Arizona apparently responded to 10-percent lower returns in 1985 by reducing winter acreage. Importers of fresh-market vegetables into the United States, which comprise roughly 7 percent of the U.S. supply, probably will not be deterred by lower U.S. grower prices, as they continue to benefit from the relatively weak currencies in Mexico and Canada.

The grower price outlook for fresh vegetables depends on the response this winter to the 4-percent reduction in winter acreage. Also, if there is a significant acreage reallocation to vegetables---particularly potatoes and dry edible beans--from other field crops as a result of the 1985 farm bill, increased vegetable supplies would put further downward pressure on prices.

PROCESSED VEGETABLES

Processors of canned sweet corn, green beans, and green peas face above average carryover for the 1985/86 season. Lower movement during 1984/85 kept 1985/86 carryin levels 58 percent above a year earlier. Processors moved 3 percent less of their 1984/85 supply than in the previous season. As a result, processors reduced the pack 36 percent or 85 million cases (24/303's) in 1985/86, thus reducing total supply 32 percent to 99 million cases.

A depressed wholesale canned vegetable price index and lower movement in 1985 meant lower returns for distributors. The average wholesale canned vegetable index (PPI) for 1985 dropped to 247 (1967=100), 3 percent below the previous year. This drop was primarily a result of weaker canned green pea and sweet corn prices. The canned green pea wholesale price reversed a 15-year upward trend and dropped an average 2 percent in 1985 to 235 (1967=100), while canned sweet corn prices suffered an even larger drop of 14 percent to 180 (1967=100).

Frozen Broccoli, Carrots, and Cauliflower--a Mixed Picture in 1986

Production of broccoli, carrots, and cauliflower for processing dropped 8 percent in 1985. Lower production of these dual-purpose vegetables probably resulted from larger 1985 carryover for both broccoli and cauliflower. Carrot carryover was unchanged in 1985. The 1985 demand for these three frozen vegetables slackened from a year earlier, as indicated by lower average disapperance.

Table 2.--Frozen vegetables: Stocks, carryover, pack, and net disappearance, 1984-86

Commodity and season	Jan 1 stocks	Carry-over	Pack	Net disappearance
		Million pounds		
Broccoli				
1984	70.8	62.1	365.7	8.7
1985	92.7	91.1	357 1/	
1986	79.7			
Cauliflower				
1984	71.3	31.1	102.1	40.2
1985	76.0	41.5	88.0	34.5
1986	80.7			
Carrots				
1984	186.4	96.7	255.6	89.7
1985	163.7	93.5		70.3
1986	188.3			

SOURCES: Carryover, Statistical Reporting Service; Pack, American Frozen Food Institute.

Lower movement was followed by 31-percent higher January 1, 1985, stocks of frozen broccoli from a year earlier. The season-ending March 1 stocks left carryover at 91 million pounds, a 47-percent increase over a year earlier. However, January 1, 1986, frozen stocks were down 14 percent, and coupled with a lower 1986 carryover, signal higher prices during first-half 1986.

Sluggish frozen cauliflower demand in 1985 left January 1, 1986, stocks 6 percent higher than a year earlier, as last-half 1985 disappearance dropped 14 percent from 1984. Thus, the outlook for 1986 frozen cauliflower indicates ample supplies. Ample frozen carrot supplies are nearly assured through first-half 1986 as January 1 stocks were up 15 percent. Both frozen cauliflower and carrot prices will probably moderate in first-half 1986.

Processed Tomato Stocks Rise

The 1985/86 carryover of processed tomatoes rose 26 percent over last season's 8.7 million cases (24/303's). A 10-percent larger 1984/85 supply led to lower 1985 contracts and a lower pack. Distributors have increased stocks an average of 20 percent annually since the tight 6 million cases in 1982/83. A downward trend in movement since 1982--9 percent per year--has turned around to a healthy 41 million cases in 1984/85. Brisk movement kept the 1985/86 carryin at managable levels, only 6 percent above the 6-year average of 10.3 million cases.

These larger 1985/86 stocks, combined with a 7-percent lower production are likely to keep supplies level with last season's 51.6 million cases (24/303's). Movement is not expected to increase. Seller concessions on tomato products indicate large supplies, particularly for industrial paste. F.o.b. prices for California fancy 31 percent drum tomato paste hit a 5-year low of 36 cents per pound in January 1985, with a slight recovery to 38 cents in January 1986. This modest improvement is partially attributable to 35-percent lower imports between January 1 and November 30, 1985, which totalled 93 million pounds. Also, imports of paste, sauce, and other products dropped 28 percent to 328 million pounds during the period.

POTATOES

The U.S. potato industry will likely receive about $1.5 billion for the 1985 crop following the record 350.3-million cwt-fall harvest. This estimate is 20 percent below the $1.86 billion received for the 1984 crop. Although the 1985 crop is estimated to be 11 percent larger than a year earlier, the price-depressing effects of larger supplies will require about a 30 percent lower price to maintain sales volume. In addition to larger supplies of table stock potatoes, processor demand during the 1985 fall quarter was not as strong, proportionately, as in 1984. Therefore, the 1986 outlook, which includes large stocks of frozen potato products, low prices for fall storage potatoes, and modest growth in the U.S. economy, suggests that growers will reduce 1986 acreage by as much as 10 to 15 percent. This forecast is explained in more detail in a special article in this issue.

February 1, 1986, stocks are 17 percent larger than a year earlier and 2 percentage points higher as a proportion of fall production. In the 15 major States, February 1, 1986, stocks of fall potatoes were 170 million cwt, 50 percent of fall production, compared to 145 million cwt and 48 percent in 1985. Processor use declined during December and January because frozen potatoes in cold storage, which topped 1 billion pounds on January 1, 1986, dampened demand for potatoes. Processors in 8 major States have used 69.8 million cwt of the 1985 fall crop by February 1, slightly below a year earlier. Moreover, January's use of 10.3 million cwt, which was 13 percent less than in January, 1985, suggests lower demand for the remainder of the season.

If processor demand is strong, a large fall potato crop usually returns an above-average price. But this year, stock levels are high and processing has slowed. Therefore, consumer demand for table stock will only absorb the 1985 fall crop at below-average prices. Monthly average prices have been well below year-earlier levels during the fall and early-winter months of the 1985/86 season. The first-half January price continued to show higher prices for processing than for fresh-market potatoes. The seasonal pattern suggests that although the monthly average is expected to rise in the coming months, the 1985/86 season-average price is likely to be around $4.00 per cwt. That's 30 percent lower than the $5.69 per cwt for the 1984 crop, and suggests that U.S. growers will seek to reduce production in 1986.

SWEETPOTATOES

The 1985 sweetpotato crop of 14.2 million cwt--9.6 percent greater than 1984's--was large enough to depress prices about 50 percent during the October to December period. Therefore, given the usual price patterns, the cash value of the 1985 crop is likely to be down 30 to 35 percent from 1984's $157 million.

Most of the increase in the 1985 crop came from fresh-market production in Georgia, South Carolina, and North Carolina. The 3-State total of 7.2 million cwt is 11 percent above their year-earlier output. Louisiana's 1985 crop of 2.53 million cwt--most of which goes to processing--is only 4.3 percent above 1984. Consequently, the North Carolina grower-level sweetpotato price fell more, proportionately, than Louisiana's. As of January 1986, North

Carolina's seasonal shipments are more than 40 percent above last season, and U.S. total shipments are 23 percent above a year earlier.

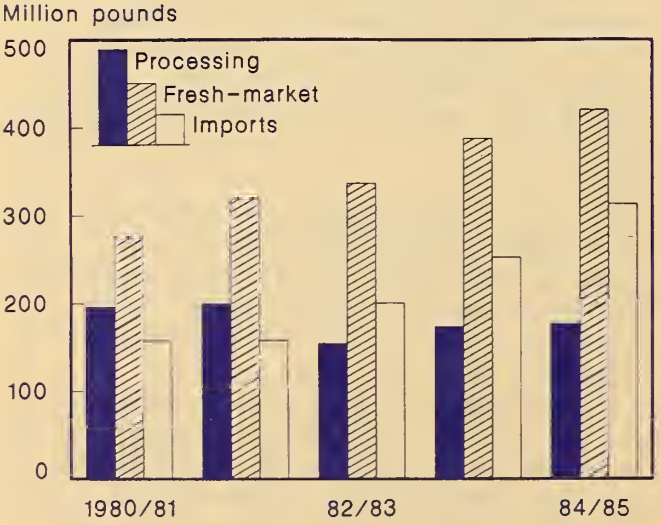
MUSHROOMS

Record 1984/85 Production Helps Fresh Sales

Total U.S. mushroom production rose 6 percent from a year earlier in 1984/85 to a record 596 million pounds. The 6-percent larger production is completely attributable to a 9-percent improvement in average yields, to 4.28 pounds per square foot, as area in production dropped 2 percent to 139 million square feet. Grower returns rose to $494 million in 1984/85, 2 percent above the year earlier.

This year's crop went predominantly to fresh sales, 420 million pounds, with the remainder going to processing. The 8-percent larger fresh sales reduced fresh prices 3 percent this season to an average 93.5 cents per pound. In Pennsylvania, with the largest share of fresh production, prices averaged 76.5 cents per pound, 7 percent below 1983/84. Pennsylvania growers began the 1984/85 season with prices averaging between 72 and 74 cents in July 1984. Prices then dropped consistently throughout the marketing year, ending in June 1985 at around 64 to 67 cents per pound. However, fresh mushroom growers benefited from larger sales as value rose 5 percent to $393 million.

Mushroom Supplies



Processing mushroom prices also declined, averaging 11 percent below last season's 64.6 cents per pound, and lowering the total sales value 10 percent to $101 million. This also affected imports of canned mushrooms.

U.S. canned mushroom imports for 1984/85 dropped 7 percent to 137.4 million pounds. The largest drop came from mainland China, down 12 percent to 38.7 million pounds. Lower prices for all mushrooms persisted through 1984/85. Imports of canned mushrooms between July and December 1985 were 17 percent higher than this period last year.

PULSES

Dry Edible Beans

Exports Push Prices Up

In spite of a 6-percent increase in dry bean production this year, prices are likely to rise to an average $19 to $20 per cwt for the 1985/86 season because of improved exports outlook. Exports are likely to increase by 8 to 10 percent over last season's 6 million cwt. For the October through December period, exports are 2.8 million cwt, or 4 percent above the same period last year. Brazil's continuing drought has severely hurt dry bean production, and they may have a deficit of up to 4.5 million cwt. Unconfirmed reports indicate that an additional 1 to 2 million cwt of 1986 crop beans may have been contracted to Mexico. Shipments to Mexico for the September-December period totalled 573,000 cwt. Brazil and Mexico have been authorized $30 and $75 million, respectively in GSM 102 credit guarantees for U.S. dry bean purchases in FY 1986.

Production and Prices, a Mixed Bag

This year's larger production resulted from increases in both yield (4 percent) and acreage (2 percent). Navy beans contributed the biggest increase, 28 percent, while pinto bean output rose 4 percent. Overall California production was up 8 percent this season, with major increases for both large and baby limas. Unseasonably cold, wet weather hurt both yield and quality in some of the Mountain and Plains States. For example, production in Idaho fell 19 percent from 1984 and

Nebraska's output was off nearly 17 percent. As a result, Great Northern production plunged 36 percent and pinto bean output rose only 4 percent, despite substantial acreage increases in pinto-growing States.

The large navy bean crop continues to depress prices, which averaged $19 f.o.b. Michigan dealers in January 1986, 35 percent below last year. However, Great Northern prices averaged $30 f.o.b. Nebraska dealers in January, because of the small crop. Prices for colored beans are strong due to export demand. Colorado pintos averaged $24 f.o.b. dealer in January, 7 percent above 1985.

1986/87 Outlook

The outlook for rising dry bean prices and modest export growth contrasts starkly with the outlook for such substitutes as grains and oilseeds. It seems likely that dry bean acreage will be steady to slightly larger next year. However, due to this year's large navy bean crop and low prices, the mix of bean acreage may shift more toward other classes, especially colored beans.

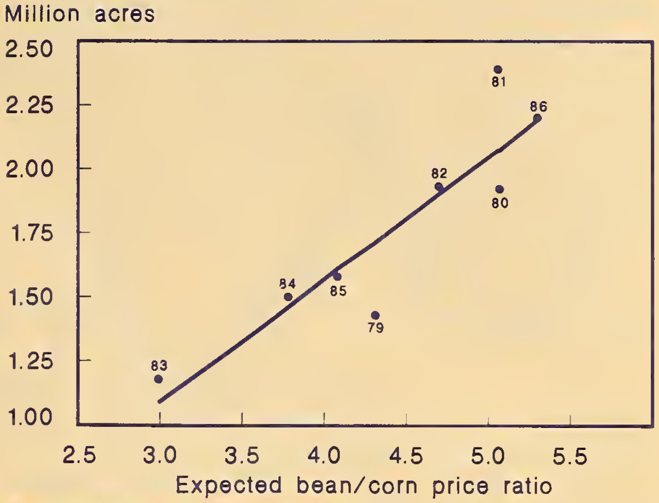
The Food Security Act of 1985 lowered the loan rate for corn to $1.92 per bushel (see box at front of this issue). Thus, bean farmers are making planting decisions based on the highest expected bean-to-corn price ratio since 1981/82, when 2.4 million acres were planted. Unlike 1981, today's high bean-corn price ratio is due to low corn prices, and 1986 acreage is unlikely to hit 1981 levels. However, given the dim outlook for production alternatives, an acreage increase of 20 to 30 percent is possible.

Dry Peas and Lentils

Dry pea and lentil production for 1985 fell 5 percent to 3.7 million cwt, due to declines in green and Austrian Winter pea output. Production of lentils and yellow peas increased slightly. Yields in 1985 were generally up but were more than offset by acreage reductions following low prices during 1984/85.

Dry edible pea prices have strengthened somewhat due to this year's smaller crop. The average grower price (f.o.b. warehouse) for the first three months of the marketing year rose from $8.35 per cwt in 1983/84 to over $9 this year. Strong export demand pushed lentil prices to $38.75 in December and the crop is virtually sold out.

Dry Bean Acreage and Bean/Corn Price Ratio



Based on $2/bu. corn, $19/cwt beans.

1985 IN REVIEW

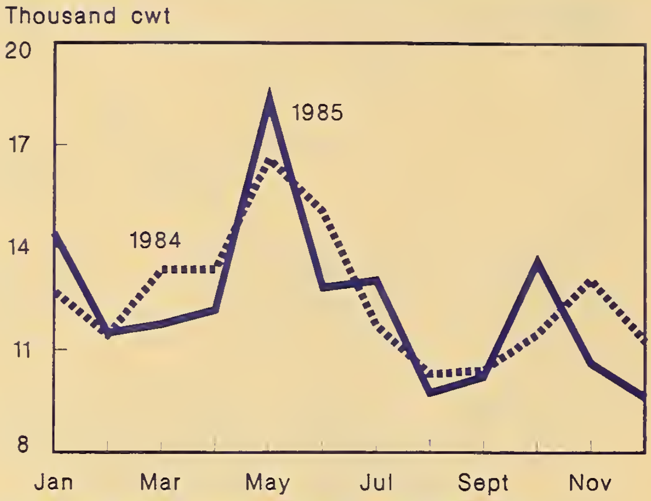
Fresh-Market Vegetable Production Up Fractionally, Grower Prices Fell

Estimates of the 1985 production of 9 principal fresh-market vegetables (asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, onions, and tomatoes) including honeydews, rose less than 1 percent compared to 1984's 217 million cwt. Honeydew melon production accounted for the overall increase by rising 20 percent over last year to 4.8 million cwt, mainly in California.

Total harvested acreage of the 9 vegetables and melons, however, dipped one-half of 1 percent from 1984, mainly because of low grower returns. Reductions were mostly in broccoli, carrots, and onions. Texas alone cut broccoli acreage 20 percent to 7,600; carrot acreage 8 percent to 15,300; and spring and non-storage summer onion acreage 16 percent to 22,600. California also reduced summer processing onion acreage 10 percent to 24,300.

Even with these acreage reductions, improved yields boosted production about 1 percent thus lowering average prices received by U.S. growers. U.S. growers received an average 4 percent less for broccoli, 14 percent

Fresh Vegetable Shipments



Includes carrots, celery, lettuce, sweet corn, onions, and tomatoes.

less for carrots, and 18 percent less for onions in 1985. Texas growers faced lower prices for broccoli, carrots, and spring onions, despite acreage reductions. For example, Texas onion growers realized 37-percent lower prices, even with a 13-percent reduction in spring acreage. They subsequently reduced summer non-storage onion acreage 40 percent and acheived an 11-percent rise in onion prices.

Fresh Shipments Turn Down in 1985

Fresh-market vegetable shipments (carrots, celery, sweet corn, lettuce, onions, and tomatoes) in 1985 averaged 2 percent below the 151 million cwt of 1984. However, due to the January 1985 freeze in Florida, fresh-market shipments for March, April, and May averaged below the same period a year earlier. Florida growers immediately replanted lost tomato acreage.

Shipments in May 1985 were 24 percent above a year ago and the largest on record. Florida producers are convinced that replantings contributed significantly to oversupplies, and are thus considering adjusting this practice.

Supplies Peak in April

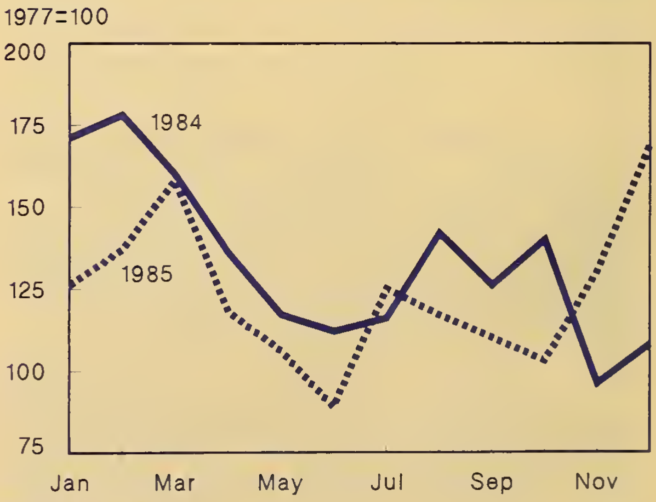
Large April supplies from Florida, the primary source of fresh-market vegetables between October and June, adversely affected U.S. grower prices. The index for fresh-market vegetables peaked in March at 158 (1977=100) as supplies were at freeze-reduced levels. The index plummeted to 89 (1977=100) in June, as both replanted winter acreage and a 2-percent larger U.S. spring acreage bumped shipments to 18.3 million cwt, nearly double April's level and 11 percent above May.

Large shipments this spring were followed by a seasonal low in August as suppliers finished summer production and prepared for fall. Supplies dipped 25 percent in August to 9.7 million cwt and were 5 percent below a year earlier as a result of heat stress in California.

However, the grower price index for fresh-market vegetables did not respond to lower California supplies, as summer supply sources are not totally captured by shipments. One explanation for this price and quantity relationship was exemplified by onions. Onions, as a component of the index, play a relatively important role in its determination. Other vegetables included in the fresh vegetable index are carrots, celery, sweet corn, lettuce, and tomatoes. In August, onion supplies rose above July, totalling 37.3 million cwt. Grower prices for onions dropped 39 percent to $11.70 per cwt in August. Except for sweet corn, prices of all other included vegetables rose, but not enough to offset onions' decline. Thus the fresh vegetable grower price index was lowered to 117 (1977=100) in 1984.

By October, fresh-market supplies were increasing and the grower price index dipped

Grower Prices for Fresh-Market Vegetables



Monthly averages.

to 103 (1977=100), 6 percent below September. December ended on an upswing as the fresh-market index rose 30 percent from November to 169 (1977=100), mainly as a result of the 7-percent cutback in fall acreage.

Retail prices for fresh vegetables remained fairly stable throughout 1985. Early 1985 brought an increase of 6 percent in the first quarter as a result of freeze-reduced supplies. Tomato prices jumped 36 percent as the freeze devastated most of Florida's crop. By April, retailers were still uncertain of spring tomato supplies and increased tomato prices 25 cents per pound from 95 cents in March. This increase rationed supplies and reversed the downslide in retail prices. Retail prices for all fresh vegetables fell throughout the spring and summer. As fall supplies were expected to be lower, retail prices responded by rising 18 percent during the fall quarter.

COMPETITIVE ADVANTAGE IN PRODUCING WINTER FRESH VEGETABLES IN FLORIDA AND WEST MEXICO

Katharine C. Buckley 1/

Abstract: Enterprise budgets and weighted average prices are used to assess the cost and price advantages of producing winter fresh tomatoes, bell peppers, cucumbers, green beans, eggplant, and squash during the 1984/85 season in Florida and west Mexico. The cost and price advantages are used to measure competitive advantage of producing each of the six vegetables. Florida producers maintained a net competitive advantage over Mexican producers only in eggplant during the 1984/85 production season; Mexico held a net advantage in the 5 others.

Keywords: Fresh vegetables, cost of production, cost advantage, price advantage, net competitive advantage, Florida/Mexico competition.

Introduction

Fresh vegetables available in U.S. markets during the winter are supplied by Florida and the State of Sinaloa, Mexico. Florida traditionally is the dominant supplier in eastern U.S. markets while Mexico dominates in the West. Both areas compete in midwestern vegetable markets. Adverse weather in Florida during 4 of the last 5 years has reduced winter fresh vegetable supplies and increased U.S. prices, enabling Mexican winter fresh vegetable growers to increase their share of the eastern and midwestern U.S. markets.

This paper presents results from an analysis of the net competitive advantage of Florida and Mexican producers of the six winter vegetables during the 1984/85 season and discusses changes in net competitive advantage that occurred since 1978/79. 2/

Cost Advantage

Enterprise budgets based on the predominant technology and trend yields in each production area were used to compute preharvest, harvest, packing, and marketing

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1/ Katharine C. Buckley is an agricultural economist, National Economics Division, Economic Research Service, USDA. This study was conducted in cooperation between USDA and the Food and Resource Economics Department, University of Florida and the Department of Agricultural Economics, University of Missouri- Columbia.

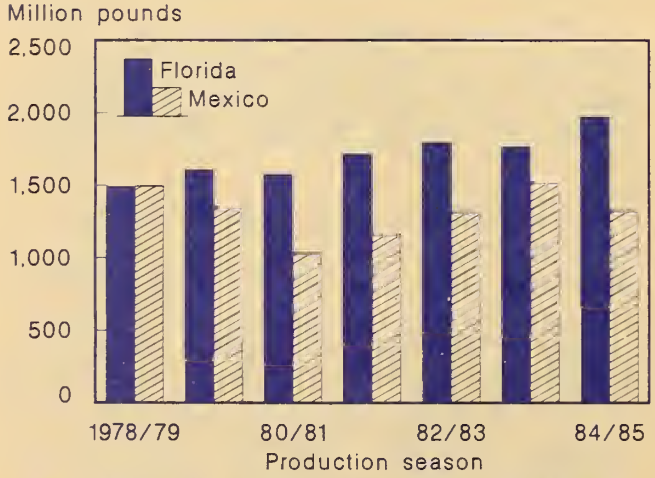
2/ A competitive advantage is defined to exist in a supply region if: (1) the region maintains lower production and marketing costs relative to a competing region's costs; (2) the region receives a higher average price for its product relative to that received by a competing region; or (3) both. Summation of the cost and price advantage in an area provides a measure of that area's net competitive advantage.

costs for each of the six vegetables in Florida and Mexico during the 1984/85 production season. Costs consist of all variable and fixed including opportunity costs of land and management. Florida costs are f.o.b. at the packing house while the Mexican cost estimates are f.o.b. Nogales, Arizona, with export tariffs and crossing charges paid. The cost estimates are representative of the months when Florida and Mexico compete.

Competition between Florida and Mexico can be assessed by comparing shipments from both areas. Historically, Mexican shipments of winter fresh vegetables (tomatoes, bell peppers, cucumbers, green beans, eggplant, and squash) are more variable than those from Florida. However, the market share captured by each area varies with weather conditions, monetary exchange rates, and government and industry policies, among other reasons. For example, high input prices and inflation rates in Mexico caused a significant decline in Mexican production and total shipments of all six vegetables between 1978/79 and 1980/81, enabling Florida to increase market share during this period.

Another way to assess competitive position is to compare the total expected costs and returns from production and marketing between regions for specific commodities. Fliginger, et.al., first assessed the cost competitiveness of Florida and Mexico in 1968, and these estimates were updated in 1971 (2). More recent studies analyzed production and marketing costs for both Florida and Mexico during the 1973/74 season (3), the 1978/79 season (4), and the 1984/85 season (1). The two most recent studies include a determination of the net competitive advantage of winter vegetable producers in each area by using the procedure outlined above.

Movement of Winter Fresh Vegetables



Includes tomatoes (October through July) bell peppers, cucumbers, green beans, eggplant, and squash (October through June.)

From 1967/68 to 1984/85, Mexican producers generally maintained lower preharvest, harvest, and packing costs for each of the six vegetables shown in table 1. For example, preharvest, harvest, and packing costs for Mexican vine-ripe tomatoes were $5.78 per 25-pound equivalent, 34 percent less than for mature green tomatoes grown in Dade County, Florida during 1984/85. 3/ In addition, pepper, cucumber, green bean, eggplant, and squash costs in Mexico were 36, 56, 22, 12, and 29 percent less, respectively, than Florida costs.

However, export costs, consisting of transportation to Nogales, Arizona, and import and export duties, reduce the cost competitiveness of Mexican producers. These export costs represent 37 percent of Mexican production and marketing costs for tomatoes during 1984/85, 47 percent for peppers, 54 percent for cucumbers, 33 percent for green beans, 45 percent for eggplant, and 31 percent for squash. The same pattern was reported in previous studies. Mexico maintained a cost advantage in growing, harvesting, packing, and selling, but the addition of export costs reduced or eliminated this advantage.

The ratio of total costs in Sinaloa to total costs in Florida is an indicator of the relative cost position. A value greater than 1.0 indicates a cost advantage for Florida; a value less than 1.0 indicates a cost advantage for Mexico.

The cost ratios in table 2 indicate that Florida tomato, pepper, and eggplant producers strengthened their cost-competitive

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3/ Competition in winter fresh tomatoes occurs mainly with Dade County, Florida, mature green tomatoes and Mexican vine-ripes because of the correspondence between production seasons in the two areas. Both areas are in full production between January and April.

Table 1--Production costs for growing, harvesting, and marketing fresh winter tomatoes, peppers, cucumbers, green beans, eggplants, and squash, Florida and Mexico, 1967/68 to 1984/85

Commodity and cost item	1967/68 1/		1970/71 1/		1973/74 1/		1978/79 2/		1984/85	
	Florida 3/	Mexico 4/	Florida 3/	Mexico 4/	Florida 3/	Mexico 4/	Florida 3/	Mexico 4/	Florida 3/	Mexico 4/
	Dollars/25 pound equivalent									
Tomatoes:										
Vine-ripened										
Preharvest	--	0.38	--	0.40	--	0.78	--	1.04	--	1.77
Harvest, pack, sell	--	0.78	--	0.83	--	1.45	--	2.12	--	2.07
Export costs 5/	NA	1.28	NA	1.30	NA	1.53	NA	1.63	NA	2.28
Total	--	2.44	--	2.53	--	3.76	--	4.79	--	6.12
Mature green, ground										
Preharvest	0.78	--	0.88	--	2.16	--	2.35	--	2.61	2.73
Harvest, pack, sell	0.85	--	1.17	--	1.83	--	2.43	--	3.17	2.07
Export costs	NA	--	NA	--	NA	--	NA	--	NA	2.28
Total	1.63	--	2.05	--	3.99	--	4.78	--	5.78	7.08
	Dollars/bushel									
Bell peppers:										
Preharvest	0.95	1.30	1.01	0.74	2.16	0.94	2.98	1.79	3.28 6/	1.94
Harvest, pack, sell	1.69	1.19	2.11	1.22	2.21	1.45	2.83	2.10	2.68 6/	2.11
Export costs	NA	1.79	NA	1.80	NA	1.62	NA	2.61	NA	3.74
Total	2.64	4.28	3.12	3.76	4.37	4.01	5.81	6.50	6.49 6/	7.79
Cucumbers:										
Preharvest	0.82	1.06	0.89	0.87	2.68	1.58	3.53	1.99	4.69	1.66
Harvest, pack, sell	1.99	1.28	2.48	1.30	2.66	1.67	3.38	2.08	4.12	2.26
Export costs	NA	2.67	NA	2.70	NA	2.87	NA	3.30	NA	4.62
Total	2.81	5.01	3.37	4.87	5.34	6.12	6.91	7.37	8.81	8.54
Green beans:										
Preharvest	--	--	--	--	--	--	--	--	5.70 7/	2.32
Harvest, pack, sell	--	--	--	--	--	--	--	--	4.60 7/	5.74
Export costs	NA	--	NA	--	NA	--	NA	--	NA	4.06
Total	--	--	--	--	--	--	--	--	10.30 7/	12.12
Eggplants:										
Preharvest	0.77	0.31	0.80	0.33	1.87	0.72	2.76	1.23	1.56	1.19
Harvest, pack, sell	1.18	0.96	1.58	0.98	1.33	1.10	1.84	1.67	1.91	1.86
Export costs	NA	1.03	NA	1.07	NA	1.58	NA	1.95	NA	2.45
Total	1.95	2.30	2.38	2.38	3.20	3.40	4.60	4.85	3.47	5.50
Squash:										
Preharvest	--	--	--	--	--	--	--	--	3.55	2.81
Harvest, pack, sell	--	--	--	--	--	--	--	--	4.45	2.86
Export costs	NA	--	NA	--	NA	--	NA	--	NA	2.60
Total	--	--	--	--	--	--	--	--	8.00	8.27

-- denotes not available for this season.

NA denotes not applicable.

1/ Production costs from Fliginger, C. John, et al. Supplying U.S. Markets with Fresh Winter Produce: Capabilities of U.S. and Mexican Production Areas. Econ. Rpt. No. 154, March 1969 and ERS-USDA; R.L. Simmons; J.L. Pearson; and E. S. Smith. Mexican Competition for the U.S. Fresh Winter Vegetable Market. AER 348, August 1976. 2/ Production costs developed by Zepp, G.A. and R.L. Simmons, Producing Fresh Winter Vegetables in Florida and Mexico: Costs and Competition. ESCS-72, November 1979. 3/ F.o.b. the packing house. 4/ F.o.b. Nogales, Arizona. 5/ Includes cost of transport from Sinaloa to Nogales, Arizona, and export fees to Nogales. Export costs are not applicable to Florida. 6/ Weighted average between Palm Beach County and Southwest Florida. 7/ Weighted average between Dade County and Palm Beach County, Florida.

Source: Economic Research Service, USDA

Table 2--Ratio of Sinoloa costs to Florida costs for producing fresh winter tomatoes, bell peppers, cucumbers, green beans, eggplants, and squash, selected years

Commodity	1967/68 1/	1970/71 1/	1973/74 1/	1978/79 1/	1984/85 2/
Tomatoes					
Staked 3/	--	--	0.902	1.028	1.029
Ground 3/	1.500	1.234	0.942	1.002	1.059
Peppers	1.621	1.205	0.918	1.119	1.200
Cucumbers	1.783	1.445	1.146	1.067	0.969
Green beans	--	--	--	--	1.180
Eggplant	1.179	1.000	1.062	1.054	1.585
Squash	--	--	--	--	1.030

-- denotes data not available for this season.

1/ Computed from Zepp, G.A. and R.L. Simmons. Producing Fresh Winter Vegetables in Florida and Mexico: Costs and Competition. ESCS-72, November 1979. 2/ Calculated as (Sinaloa cost)/(Florida cost) as shown in table 1. A value less than 1 suggests that Mexico had the cost advantage; a value greater than 1 suggests that Florida had the cost advantage. 3/ Winter production.

Source: Calculated from tables 1 and 3.

positions between the 1978/79 and 1984/85 production seasons. This improvement is attributable mainly to widespread use of higher-yielding hybrid plant varieties and improved production practices. Florida producers also maintained their cost advantage in green bean and squash production during 1984/85. However, the competitiveness of Florida cucumber producers has consistently weakened since 1967/68, perhaps because of increasing labor costs. 4/

Price Advantage

Prices also help determine the competitive position of producers in different areas. A competitive advantage may be obtained by producers in an area who are able to: (1) ship larger quantities of produce during periods of high prices, even though their production and marketing costs may be relatively high; or (2) receive premium prices from buyers because of quality or other types of product differentiation, despite higher production costs.

Weighted average prices for the six vegetables received f.o.b. at packing houses in Florida and Nogales are calculated to reflect the effect that the volume of shipments has on the season-average price (table 3). In general, prices rise in response to adverse weather. The weighted average prices indicate that Mexico achieved a price advantage in tomatoes, peppers, cucumbers, green beans, and squash during 1978/79 to 1984/85. This occurred because of Mexico's ability to ship significant quantities into U.S. markets during periods of high prices, especially during supply disruptions caused by Florida freezes. For example, Florida winter fresh vegetable shipments dropped an estimated 54 percent from the 42.4 million pounds recorded the week before the January 1985 freeze to 22.8 million pounds in late March. At the same time, Mexican winter fresh vegetable shipments increased 30 percent and provided Mexico a record 90-percent share of the U.S. market between January and March. 5/

Net Competitive Advantage

The net competitive advantage for Florida producers is the sum of the cost advantage and the price advantage (table 4). A positive value represents a net competitive advantage for Florida; a negative value

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4/ Mexico has a climatic advantage over Florida for growing cucumbers during mid-winter. Because cucumbers are particularly temperature-sensitive and are easily susceptible to damage from adverse weather, Florida producers use plastic mulch to obtain an early crop and provide some protection against frost. This requires hand labor for planting seeds after the beds are prepared and mulch is laid.

5/ Unpublished USDA-ERS estimates.

Table 3--Weighted average f.o.b. prices received by Florida and west Mexico growers for fresh winter vegetables, 1978/79 through 1983/84 1/

Crop and production area	Weighted average 2/ 1973/74-1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1978/79 - 1983/84
	Dollars/25-pound equivalent							
Tomatoes: 3/								
Florida								
Dade County	--	6.09	4.99	8.16	6.33	7.81	8.62	7.00
Mexico	5.94	6.41	5.08	11.53	6.72	8.59	7.48	7.64
	Dollars/bushel							
Bell peppers: 4/								
Florida	7.42	6.94	9.62	11.70	8.47	13.60	10.79	10.19
Mexico	10.09	9.50	8.82	22.33	12.43	16.07	12.80	13.66
Cucumbers: 4/								
Florida	6.81	9.02	13.25	12.24	10.21	14.58	11.66	11.83
Mexico	10.13	9.44	9.23	12.38	13.81	15.55	12.96	12.23
Green beans: 4/								
Florida	--	8.35	8.99	12.71	11.16	11.30	9.78	10.38
Mexico	--	10.49	10.85	17.86	25.37	13.32	13.73	15.27
Eggplant: 4/								
Florida	3.85	4.65	4.07	6.35	6.45	6.61	6.32	5.74
Mexico	4.35	--	3.98	6.79	5.28	6.04	5.58	5.53
Squash: 4/								
Florida	--	10.53	8.51	11.38	10.16	13.93	10.90	10.90
Mexico	--	10.23	12.28	20.42	15.96	16.96	12.40	14.71

-- denotes data not available for this season.

1/ Calculated from data obtained from Marketing Mexico Fruits and Vegetables, AMS/USDA; Marketing Florida Vegetables, Summary, Federal State Market News Service, Winter Park, Florida; and Florida Tomato Committee Annual Report, Florida Tomato Committe, Orlando, Florida. 2/ From Zepp, G.A. and R.L. Simmons. Producing Fresh Winter Vegetables in Florida and Mexico: Costs and Competition. ESCS-72, November 1979. 3/ Computed by weighting the weekly average f.o.b. price for all maturities in Florida and Nogales during December through June by the corresponding quantities sold each week in each area. 4/ Computed by weighting the weekly average f.o.b. price in Florida and Nogales during December through April, by the corresponding quantities sold during the week.

Source: Economic Research Service, USDA

indicates a net competitive advantage for Mexico. The values presented in table 4 suggest that Mexico achieved a net competitive advantage in the production of all six vegetables with the exception of eggplant during 1984/85. Florida eggplant growers have significantly increased yields through use of new eggplant varieties, while Mexican eggplant production has fallen slightly during the last four seasons, either because of reductions in acres planted or yields obtained. Moreover, the export value of Mexican eggplant has remained low, primarily due to low U.S. prices which reflect an adquate domestic supply.

Conclusions

Import and export costs paid by Mexican growers continue to provide Florida growers the necessary margin to remain cost competitive for all vegetables considered, except cucumbers. However, what Florida producers have gained in terms of cost advantages has been overshadowed by Mexican price advantages obtained through the ability to ship large volumes of most vegetables to U.S. markets during periods of high prices.

The dynamic nature of the factors affecting the competitive position of Florida and Mexican growers both in the short run and long run, makes predictions difficult. Macroeconomic factors such as the peso/dollar exchange rate and inflationary pressures on input prices will continue to have a significant effect. For example, devaluation of the peso would tend to increase net returns for Mexican vegetables in the short run because it raises the price (in pesos) Mexican producers receive relative to costs. On the other hand, a rapid rise in input prices in Mexico tends to erode the competitive position of Mexican growers.

Within any season, weather can be the dominant factor determining market shares. Freezes in Florida reduce supplies and result in higher prices. Mexico may react to this

Table 4--Net competitive advantage for Florida in supplying fresh winter vegetables to U.S. markets, 1984/85 1/

Cost component	Winter tomatoes		Peppers	Cucumbers	Green Beans	Eggplant	Squash
	Staked	Ground					
	Dollars/25-pound carton			- - - - - - - - Dollars/bushel - - - - - - - -			
Weighted average prices							
Price advantage 2/	-1.62	-0.64	-3.47	-0.40	-4.89	0.21	-3.81
Cost advantage 3/	0.17	0.34	1.30	-0.27	1.82	2.03	0.27
Net advantage 4/	-1.45	-0.30	-2.17	-0.67	-3.07	2.24	-3.54

1/ A positive number represents a net competitive advantage for Florida; a negative number represents a net competitive advantage for Mexico. 2/ Calculated as Florida price minus Mexican price; six-season December through April average (1978/79-1983/84). 3/ Calculated as Mexican cost minus Florida cost (1983/84 season). For tomatoes, the comparison is between Dade County mature green tomatoes and Mexican vine-ripes. 4/ Sum of price advantage and cost advantage.

Source: Economic Research Service, USDA

situation by diverting some production intended for the Mexican domestic market to export, but evidence indicates that this action has not occurred since the late 1970s. 6/ Mexico, too, can be adversly affected by cold and wet weather. This leads to reduced yields and quality for Mexican vegetables and permits Florida to capture a larger share of the U.S. market.

In the long run, improved technology, changing wage rates, land costs, and urbanization may also affect the competitive positions of producers. However, in the short run, it is likely that Mexico will retain the net competitive advantage over Florida, when supplies are reduced in Florida by adverse weather and prices remain high enough to offset the high export costs faced by Mexican producers.

6/ Changes in export prices have caused little diversion between markets during recent years. For example, low tomato export prices experienced during 1979/80 did not increase national market sales on a per-acre basis. Likewise, high export prices in 1980/81 did not appear to affect yields targeted for the national market.

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1986 PROSPECTS FOR THE U.S. POTATO INDUSTRY

John M. Love

Abstract: The current situation of high storage inventories and low farm-level potato prices indicates that U.S. growers will reduce planted acreage in 1986. Trends in acreage, yields, and production, and economic relationships between prices and area planted lead to an estimated 1986 benchmark of 1.2 to 1.3 million acres planted, down from 1.4 million in 1985. Trend yields indicate a 350 to 385 million cwt crop. Likely marketings of 330 million cwt suggests that potato farmers will receive $1.6 billion to $2.2 billion in cash receipts for the 1986 crop.

Keywords: Potatoes, trends, acreage, prices.

Introduction

The U.S. potato industry faces a 20-percent drop in cash receipts for the 1985 crop. In real terms (adjusted for inflation) the 1985 crop's value will drop about 24 percent—the first decline since 1982. Price-depressing effects of the record 1985 fall harvest account for the recent low prices. The 1986 outlook—which includes high levels of frozen potato stocks, low prices for fall storage potatoes, and modest growth in the U.S. economy—suggests that potato growers will cut back acreage as much as 10 to 15 percent.

Today's fewer potato farms and larger average acreage have not solved the age-old tendency to produce cyclical surpluses. Growers typically react to higher or lower market prices by expanding or reducing acreage, but long-run production has kept pace with population growth. Increased demand for processed potatoes has enhanced marketing efficiency through increased contract production and led to a westward shift in the major producing regions.

This paper develops statistical estimates of annual acreage adjustments in response to price fluctuations. Large supplies and low prices from the record 1985 crop suggest that growers will seek to reduce 1986 production. The discussion of industry trends over the last 15 years and the statistical models lead to forecasts of acreage, production, and value for the 1986 crop.

Fall Production Sets the Pace

The fall potato crop, usually 87 percent of the annual total, is principally distributed from storage during December to July. Therefore, the farm-level price during the winter, spring, and summer months is largely determined by the relative size of the preceding fall crop.

The seasonality of marketings is tied to fall crop storage and processor utilization. This pattern of movement suggests why the monthly farm-level price is predictable once information about fall-crop acreage and yield is available. Marketings during September to August are highest in October at 16.8 percent and lowest in July at 4.1 percent (table 1). Correspondingly, the monthly price is lowest in October and highest in July.

In years of low fall prices, processors tend to demand more potatoes for processing, storage, and distribution in later months. Consequently, low processor demand toward the marketing season's end tends to depress

Table 1--Seasonal patterns in potato marketings and prices

Month	Marketings 1/	Price 2/
	Percent	
September	9.8	88
October	16.8	84
November	8.6	87
December	7.0	88
January	7.7	89
February	7.5	87
March	8.9	87
April	9.2	93
May	8.2	106
June	6.7	124
July	4.1	139
August	5.5	126

1/ Monthly distribution. 2/ Percent of season-average price.

prices during spring and summer months and discourage fall acreage expansion.

If processor demand is strong, a large fall crop usually returns an above-average price. But if frozen potato stocks are high and processing slows, consumer demand for table stock will only absorb a large fall crop at below-average prices. Growers logically cut back acreage following a season of low prices, and because all indicators point to a depressed 1985/86 season-average price, 1986 planted area is likely to fall below the 1970-85 trend.

Trends Since 1970

Higher Yields, Lower Acreage, and Shifted Utilization

Harvested acreage of potatoes since 1970 has decreased at an average annual rate of .5 percent (figure 1), but average yields have increased at triple that rate (figure 2). Thus, production since 1970 has risen at an annual rate of 1 percent (figure 3). The trend in U.S. production has kept pace with population, but the year-to-year fluctuations in output and price have caused acreage adjustments and long-run shifts in utilization.

The trends in per capita consumption of potatoes since 1970 highlight the shift to processed utilization. In 1984, Americans consumed about 38 pounds (fresh-weight equivalent) per capita of frozen potatoes, compared to about 28 pounds in 1970.

Figure 1

U.S. Potato Acreage Harvested

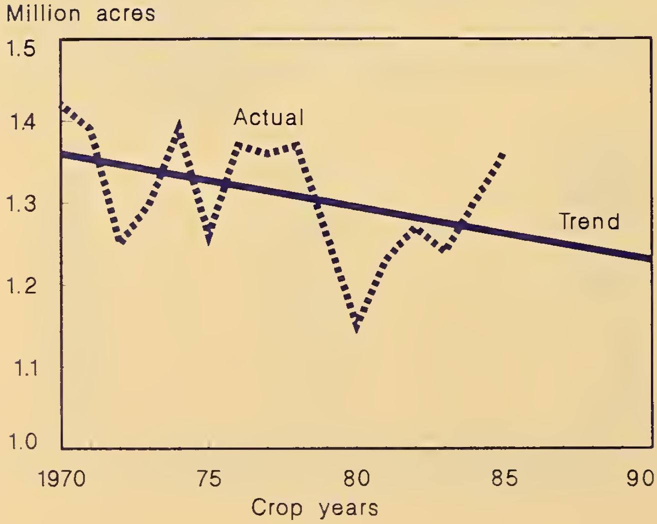


Figure 2

U.S. Potato Yields

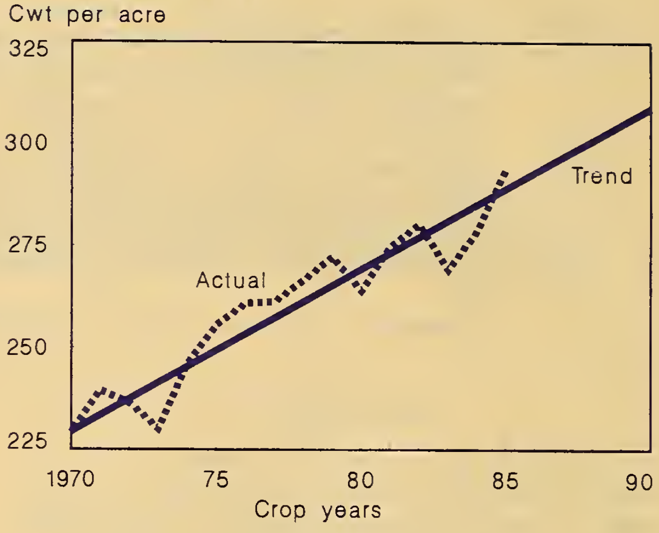
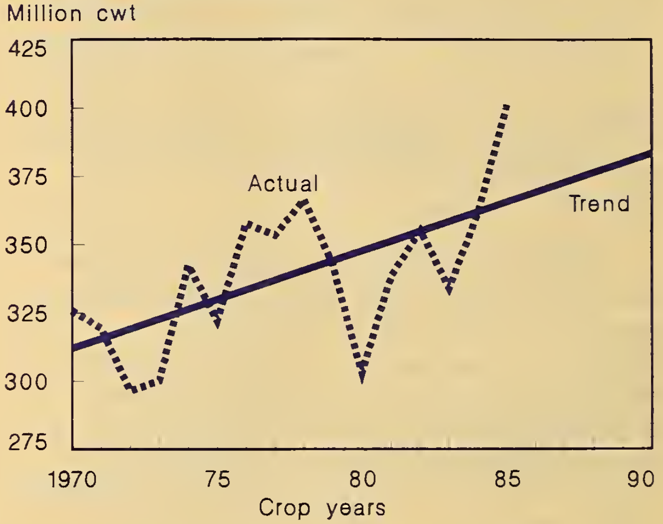


Figure 3

U.S. Potato Production



Consumption of fresh potatoes actually declined in the early 1980's. A special article in the February 1985 Vegetable Outlook and Situation Report, titled "Changes in the U.S. Potato Industry" by Eugene Jones and Glenn Zepp analyzes the underlying causes associated with this industry shift. Briefly, growth in fast food expenditures and the number of women in the work force have transformed the U.S. potato industry. Adoption of improved processing technology and increased contract procurement have prompted the increased size and reduced number of processing plants and shifted production from the traditional fresh-market growing areas to the Pacific Northwest States of Washington, Oregon, and Idaho.

Table 2--Potato consumption shifts from fresh to frozen during 1970-84

Year	Fresh	Frozen	Other 1/	Total
	Pounds per person 2/			
1970	57.3	27.7	31.3	116.3
1971	56.0	30.2	31.5	117.7
1972	56.6	30.5	31.3	118.4
1973	51.1	32.9	31.5	115.5
1974	47.4	32.9	32.7	112.8
1975	53.8	34.3	32.1	120.2
1976	50.5	36.4	27.9	114.8
1977	53.6	36.5	29.9	120.0
1978	51.5	38.8	29.8	120.1
1979	59.0	35.4	24.9	119.3
1980	56.3	33.7	27.8	117.8
1981	47.9	36.3	29.0	113.2
1982	50.0	36.2	29.1	115.3
1983	52.5	37.5	29.6	119.6
1984	51.8	38.0	30.1	119.9

1/ Includes chips, shoestrings, dehydrates, canned, starch, flour, and other. 2/ Fresh-weight equivalent basis.

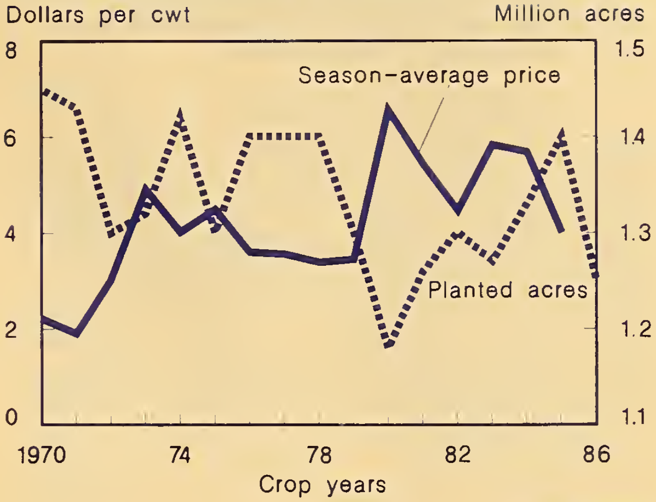
Acreage Responds to Prices and Yields

Figure 4 illustrates the relationship between area planted in potatoes and the corresponding season-average price in crop years since 1970. By accounting for other factors, such as alternative crop prices and the trend in yields, the relationship between acreage and the previous year's price can be statistically modeled (see appendix for statistical details). The estimated relationship suggests that in recent years, growers cut back acreage about 2 percent for each 10-percent drop in season-average price.

From 1969 to 1971, for example, the nominal season-average price declined steadily from $2.24 to $1.90 a cwt. Output increased in 1970 because of a 3.6-percent increase in average yield, and price declined 1 percent (6 percent after inflation). Because of high frozen stocks in 1971, reduced 1971 production could not prevent a further 14-percent drop in price while inflation was 5 percent. Potato growers responded to falling prices by reducing 1972 acreage 9 percent to 1.3 million acres--the lowest on record. The 1972 season-average price increased 59 percent for the 296.4-million-cwt crop. Growers cut back acreage in 1975, 1977, 1979, 1980, and 1983. In the season before each reduction, the industry experienced a decline in the inflation-adjusted value of its crop.

Figure 4

U.S. Potato Acreage and Price



1986 forecast.

Conversely, U.S. potato growers increased acreage in 1974, 1976, 1978, 1981, 1982, 1984, and 1985, a typical reaction to the previous year of increased nominal cash value or changes in processor demand. In 1981, for example, the industry increased planted area by 6.8 percent--less than would be expected following a year of high prices. However, processors reduced demand in early 1981 because of high open-market prices. Moreover, 1980 sugarbeet prices were their highest since 1974, which offered potato growers a potentially more profitable alternative crop in California, Idaho, and Minnesota. If potato prices are low, growers will substitute other crops--including feed grains--on traditional potato acreage.

1986 Outlook

Lower Area Planted

Current information indicates that after the 1985 crop has been marketed the farm-level price will be about 30 percent lower than 1984's. However, sugarbeet processing capacity in 1986 will likely limit this alternative for potato growers. Low prices for the 1985 crop, holding other factors constant, will provide growers an incentive to lower acreage in 1986. Estimated U.S. acreage is forecasted at 1.2 to 1.3 million acres, down 11 percent from the 1.4 million acres in 1985.

An average 1.25 million acres harvested with a trend yield of 290 cwt an acre would result in a 1986 crop of 363 million cwt. This 10-percent reduction in 1986 output compared with 1985's record, would likely boost the 1986/87 season-average price.

Typically, the farm-level price for potatoes is highly responsive to changes in supply. In addition to a likely reduction in the 1986/87-season supply, farmers can expect moderate growth in the economy to maintain demand for fresh and frozen potatoes. Furthermore, because of the expected slowdown in processing during first-half 1986, increased demand for frozen potatoes during second-half 1986 will further boost the 1986 season-average price.

Appendix

Statistical Methods

The Ordinary Least Squares (OLS) method of fitting a regression was employed to find two statistical relationships:

(1) $A = -2.39 + 0.637(B) - 0.045(C) + 0.005(D)$,
where:
A = change in per capita potato acreage planted,
B = previous season-average potato price,
C = previous season-average sugarbeet price,
D = previous season-average potato yield, and

(2) $E = 29.24 - 0.042(F) + 0.003(G) - 34.57(H)$,
where,
E = season-average grower price of potatoes,
F = annual potato marketings,
G = U.S. average disposable income (1972 dollars),
H = ratio of potato stocks to fall production in major States.

The data used to estimate the statistical coefficients are listed in Appendix table 1. The results indicate that sugarbeets are a statistically significant alternative crop to potatoes in certain States (Appendix table 2). Potato yield, though postively related to planted acreage, is a statistically significant factor that likely captures the effects of several unspecified variables. The potato season-average price is negatively related to sales and stocks, and positively related to average consumer income (Appendix table 3). The forecasts for 1986 were generated with current available estimates for the regressors.

Appendix table 1--Data for statistical variables used in estimating potato forecasting models

Crop year	Potato price 1/	Potato sales 2/	Area planted 3/	Yield 4/	Stocks 5/	Sugarbeet price 6/	Income 7/	Population 8/	GNP deflator
	$/cwt	1,000 cwt	Million acres	Cwt/ acre	Percent	$/ton	Dollars	Millions	1972=100
1969	2.24	279,962	1,457.6	221	65	12.70	3,564	202.7	86.79
1970	2.21	291,909	1,449.5	229	66	14.80	3,665	205.1	91.45
1971	1.90	282,493	1,432.1	230	67	15.40	3,752	205.1	91.45
1972	3.02	268,450	1,301.1	236	64	16.00	3,860	209.9	100.00
1973	4.90	275,121	1,329.8	230	63	29.60	4,080	211.9	105.75
1974	4.01	303,427	1,421.6	246	66	46.80	4,009	213.9	115.08
1975	4.48	293,241	1,298.5	256	68	27.60	4,051	216.0	127.79
1976	3.59	324,660	1,404.2	261	67	21.00	4,058	218.1	132.34
1977	3.55	317,497	1,398.9	261	69	24.20	4,280	220.3	140.05
1978	3.38	325,573	1,401.0	267	70	25.20	4,441	222.6	150.42
1979	3.44	306,415	1,295.4	272	70	33.90	4,512	225.1	163.42
1980	6.55	274,288	1,175.4	265	67	47.20	4,487	227.7	178.42
1981	5.42	308,280	1,255.3	276	67	29.20	4,561	230.1	195.60
1982	4.45	316,844	1,302.8	280	69	35.40	4,555	232.4	207.38
1983	5.82	303,283	1,272.1	269	68	37.00	4,670	234.5	215.34
1984	5.69	326,749	1,336.9	279	66	28.60	4,939	236.7	223.43

1/ Season-average price of all potatoes. 2/ Includes total marketed crop from annual harvests. 3/ Includes total annual area planted in potatoes. 4/ Ratio of total annual potato production to total area harvested. 5/ Ratio of total potato stocks to total fall production in 15 major States. 6/ Does not include Government payments under the Sugar Act. 7/ U.S. average annual disposable income ($1972), calendar year basis. 8/ Estimated total U.S. population on July 15.

Appendix table 2--Statistical results of regressing potato planted area 1/ on prices of potatoes and sugarbeets and potato yield 2/

Regressor 3/	Coefficient	Standard error	T-ratio
Constant	-2.39	0.617	-2.87
Potato price	0.637	0.077	8.30
Sugarbeet price	-0.045	0.008	-5.80
Potato yield	0.005	0.002	2.48

1/ The regressand is 1970-1984 annual changes in the ratio of potato acreage planted to population. Mean, -0.103. 2/ Number of observations, 15; adjusted R-squared, 0.826; standard error of regression, 0.156, Durbin-Watson statistic, 2.0; F-statistic, 23.17. 3/ All prices are divided by GNP deflator times 0.01 and lagged one year.

Appendix table 3--Statistical results of regressing season-average potato price 1/ on potato sales, U.S. average income, and December 1 potato stocks 2/

Regressor 3/	Coefficient	Standard error	T-ratio
Constant	29.24	6.161	4.75
Potato sales, annual	-0.042	0.008	-5.20
U.S. average disposable income ($1972)	0.003	0.001	5.92
December 1 potato stocks 3/	-34.57	8.641	-4.00

1/ The regressand is 1974-1984 weighted-average nominal prices of all potatoes sold from annual crops. Mean, 4.58 $/cwt. 2/ Number of observations, 11; adjusted R-squared, 0.879; standard error of regression, 0.389; Durbin-Watson statistic, 2.15; F-statistic, 25.18. 3/ Ratio of stocks to fall producton in 15 major States.

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Table 3.--Commercial vegetables and potatoes: Monthly average index of prices received by U.S. growers, 1984-85 1/

Item	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910-14=100													
Commercial 2/	1985	647	693	780	621	565	506	642	616	571	564	671	885
	1984	804	853	781	685	610	581	611	706	643	688	533	577
Fresh	1985	832	904	1,043	777	695	585	823	770	694	677	853	1221
	1984	1,093	1,177	1,059	898	765	712	763	929	828	909	636	713
Potatoes, etc. 3/	1985	481	496	497	531	574	590	525	389	344	336	329	323
	1984	577	567	584	599	626	634	793	723	440	405	432	458
1977=100													
Commercial 2/	1985	130	139	157	125	113	102	129	124	115	113	135	178
	1984	161	171	157	138	122	117	123	142	129	138	107	116
Fresh	1985	126	137	158	118	106	89	125	117	105	103	130	186
	1984	166	179	161	136	116	108	116	141	126	138	97	108
Potatoes 3/	1985	133	137	137	146	158	163	145	107	95	93	91	89
	1984	159	156	161	165	173	175	219	199	121	112	119	126

1/ 1985 indexes are preliminary. 2/ Includes fresh and processing vegetables
3/ Includes Irish potatoes, sweet potatoes, dry edible beans.

SOURCE: Agricultural Prices, Statistical Reporting Service, USDA.

Table 4.--Fresh vegetables: Monthly average prices received by U.S. growers, 1984-85 1/

Item	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Dollars per cwt													
Carrots	1985	13.10	12.90	11.00	10.80	10.70	9.90	10.60	13.00	12.50	12.80	12.50	13.70
	1984	14.20	17.30	16.40	16.70	13.00	13.00	12.30	14.20	14.40	12.70	13.20	13.50
Celery	1985	8.22	7.66	7.47	9.74	14.20	9.51	10.70	10.40	10.50	11.50	12.90	12.30
	1984	22.80	21.90	14.50	12.20	13.30	9.24	8.09	9.29	8.85	9.46	11.40	8.65
Corn, Sweet	1985	15.10	27.20	28.00	14.70	13.70	9.73	12.00	10.70	11.30	11.20	13.40	10.20
	1984	29.10	27.60	20.90	16.80	14.20	12.40	13.50	11.80	12.30	10.70	11.50	13.90
Lettuce	1985	14.50	10.50	9.63	9.05	9.41	7.09	12.40	12.90	11.80	9.92	13.00	26.20
	1984	8.34	9.71	9.45	7.48	6.95	9.26	9.24	14.50	15.00	20.30	7.78	10.40
Onions	1985	9.62	8.84	7.93	9.50	12.90	10.80	19.40	11.70	7.68	6.58	6.77	8.09
	1984	17.30	19.40	25.20	25.30	13.90	11.00	14.00	13.70	11.00	9.49	10.30	11.80
Tomatoes	1985	25.20	37.40	58.20	33.20	15.20	17.70	19.20	20.50	19.00	22.10	32.60	43.30
	1984	40.20	44.00	34.80	25.00	27.60	23.50	26.70	32.50	22.30	22.00	17.70	18.90

1/ 1985 prices are preliminary.

SOURCE: Agricultural Prices, Statistical Reporting Service, USDA.

Table 5.--Vegetables: Index of producer prices, 1984-85 1/

Commodity	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967=100													
Fresh 2/	1985	187.4	226.3	241.0	224.4	181.2	181.6	256.1	212.3	189.0	178.1	173.2	220.4
	1984	263.8	311.5	311.9	225.9	183.2	205.8	198.5	218.2	206.9	191.1	161.8	150.9
Canned	1985	250.9	244.8	251.2	248.0	246.2	252.6	249.6	252.2	244.4	245.1	239.1	238.4
	1984	255.7	254.5	258.7	256.3	257.8	254.7	252.4	256.6	246.6	250.1	242.5	244.7
Frozen	1985	295.3	297.0	297.5	298.7	298.4	299.1	299.4	299.0	299.2	299.4	298.6	298.8
	1984	285.4	283.6	289.4	289.3	289.6	292.1	293.0	293.3	293.5	293.4	294.1	292.3

1/ Producer Price Index (PPI). 2/ Excluding potatoes.

SOURCE: Bureau of Labor Census, Department of Labor.

Table 6.--Vegetables: Index of consumer prices, 1/ 1984-85

Item	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967=100													
Fresh Vegetables	1985	324.5	346.3	342.0	340.8	314.3	309.5	317.9	301.4	286.7	288.1	300.0	338.3
	1984	363.6	386.6	385.4	347.4	316.8	317.1	318.8	338.7	302.3	306.0	304.4	294.8
Potatoes	1985	331.5	335.7	338.3	342.9	369.4	399.4	384.9	331.8	283.3	260.0	257.6	260.1
	1984	342.3	359.6	363.5	367.3	372.1	391.4	455.6	478.1	354.1	324.3	313.1	327.3
Lettuce	1985	385.6	339.7	306.7	263.5	295.5	243.0	297.5	334.3	348.3	330.8	315.9	437.9
	1984	328.3	278.5	290.5	344.4	234.1	262.6	246.0	316.6	357.8	363.6	350.5	276.0
Tomatoes	1985	238.0	282.4	322.4	410.0	232.9	218.9	232.4	219.3	214.0	233.7	276.9	321.7
	1984	285.6	332.8	318.5	280.4	252.8	262.3	237.3	310.4	252.9	255.1	245.3	232.4
Other	1985	177.3	205.1	199.5	191.5	175.0	174.9	174.9	163.6	156.8	165.4	176.4	187.8
	1984	226.1	252.1	249.4	218.9	187.4	174.6	167.1	157.1	152.1	158.7	164.3	167.4
Processed Vegetables	1985	147.1	147.5	147.1	147.1	148.1	148.4	148.6	149.0	148.2	147.5	147.1	147.1
	1984	144.2	144.6	144.9	145.6	146.0	146.5	147.2	148.1	146.9	146.5	146.1	146.5

1/ Consumer Price Index (CPI-U).

SOURCE: Bureau of Labor Statistics, Department of Labor.

Table 7.--Potatoes, sweet potatoes, dry edible beans: Monthly average prices received by U.S. growers, 1984-85 1/

Item	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
							Dollars per cwt						
Potatoes	1985	5.22	5.31	5.40	5.80	6.44	6.67	5.78	3.97	3.65	3.60	3.39	3.23
	1984	6.43	6.29	6.55	6.69	7.04	7.52	9.72	8.75	4.87	4.26	4.60	4.90
Sweetpotatoes	1985	18.20	20.00	18.20	19.70	19.40	20.50	17.60	13.80	8.46	6.77	8.08	10.40
	1984	16.50	18.10	19.50	20.20	23.00	12.60	14.60	13.60	9.77	10.70	12.70	17.10
Dry Edible Beans	1985	18.10	19.20	19.10	19.80	19.80	19.20	19.80	19.10	16.70	16.80	17.50	17.30
	1984	22.10	21.30	20.30	21.10	20.40	20.60	21.60	21.10	19.00	19.90	19.70	18.60
Green Peas	1985	8.00	8.40	8.80	8.95	8.80	8.95	9.15	9.15	8.75	9.00	9.45	9.88
	1984	9.00	8.80	8.95	9.00	8.95	9.20	9.15	8.80	8.40	8.25	8.40	8.25
Yellow Peas	1985	8.90	9.00	9.00	9.00	8.80	8.55	8.50	8.50	8.45	8.25	8.55	8.75
	1984	7.70	7.75	7.50	7.40	7.75	7.30	7.50	7.50	7.90	8.20	8.45	8.60
Lentils	1985	28.30	29.00	27.65	26.25	25.30	25.25	19.25	19.65	21.75	26.40	34.25	38.00
	1984	15.20	15.00	14.90	14.25	14.35	14.55	15.25	19.75	24.65	28.40	29.50	28.65

1/ 1985 prices are preliminary.

SOURCES: Agricultural Prices, Staistical Reporting Service, USDA, and American Dry Pea and Lentil Association.

Table 8.--Processed vegetables: Wholesale prices of selected items, 1984-85 1/

Commodity	Jan. 1984	Jan. 1985	1985 as a percent of 1984
	Dollars/case		
CANNED VEGETABLES:			
Snap beans			
24/303	6.50	6.75-7.00	105
6/10	9.75	10.00	103
Sweet corn			
24/303	8.25	6.50-6.75	80
6/10	12.25-13.00	9.50-9.75	76
Green peas			
24/303	8.50-9.50	8.75-9.00	99
6/10	12.75-13.25	13.25-13.50	103
Whole tomatoes			
24/303	7.93	7.25	91
6/10	12.05	11.00-11.50	93
Tomato paste			
6/10	23.10	18.00	78
55-gal. drums (cents/lb.	.56	.56	100
FROZEN VEGETABLES 1/:			
Snap beans			
Retail	7.95	8.35	105
Foodservice	.45-.50	.50-.52	108
Sweet corn, cut			
Retail	7.80	7.80	100
Foodservice	.49	.49	100
Sweet corn, cob			
Retail	9.75-10.00	7.80	79
Foodservice	8.00-8.50	9.85	119
Green peas			
Retail	8.20	8.20	100
Foodservice	.51	.51	100
Broccoli, spears			
Retail	9.95-10.25	9.95-10.50	101
Foodservice	.50-.57	.52-.57	102

1/ Retail-size prices are dollars per case of 24/10-ounce (or 9-ounce) packages. Foodservice case prices are in terms of dollars per pound for 12/2-1/2-pound packages.

SOURCE: American Institute of Food Distribution.

Table 9.--Fresh vegetables: Retail price, marketing margin, and grower-packer return per unit, sold in Baltimore, indicated months, 1984-85

Commodity, month, and retail unit	Retail price	Marketing margin		Grower-packer return 1/	
		Absolute	Percent of retail price	Absolute	Percent of retail price
		Cents	Percent	Cents 2/	Percent
Carrots (lb.)					
December 1984	38.0	27.3	72	10.7	28
December 1985	45.0	30.0	67	15.0	33
November 1985	42.0	29.1	69	12.9	31
Celery (lb.)					
December 1984	37.2	28.3	76	8.9	24
December 1985	33.9	17.8	53	16.1	47
November 1985	41.9	27.6	66	14.3	34
Lettuce (head)					
December 1984	69.0	55.6	81	13.4	19
December 1985	94.0	56.1	60	37.9	40
November 1985	94.0	70.6	75	23.4	25
Onions, dry yellow (lb.)					
December 1984	27.0	18.8	70	8.2	30
December 1985	31.0	24.9	80	6.1	20
November 1985	31.0	25.2	81	5.8	19
Potatoes, round white (lb.)					
December 1984	18.4	11.9	65	6.5	35
December 1985	14.9	11.6	78	3.3	22
November 1985	15.4	12.3	80	3.1	20
Potatoes, Russet (lb.)					
December 1984	50.0	31.8	64	18.2	36
December 1985	42.0	30.6	73	11.4	27
November 1985	42.0	29.5	70	12.5	30
Sweetpotatoes (lb.)					
December 1984	40.0	13.0	33	27.0	67
December 1985	35.0	22.3	64	12.7	36
November 1985	33.0	22.5	68	10.5	32

1/ Production areas: Carrots-California; Celery-California; Lettuce-California; Onions-New York; Potatoes, round white-New York; Potatoes, Russet-Idaho; and Sweetpotatoes-North Carolina. 2/ Adjusted to account for waste and spoilage during marketing.

SOURCE: Dept. of Agriculture, Baltimore Retail Food Price Report and U.S. Dept. of Agriculture, Agricultural Marketing Service, Weekly Summary of F.O.B. Prices.

Table 10.--Fresh vegetables: U.S. shipments June 30-December 28, 1985 1/

Commodity	June 30 to July 27	July 28 to Aug. 31	Sept. 1 to Sept. 28	Sept. 29 to Oct. 26	Oct. 27 to Nov. 30	Dec. 1 to Dec. 28
			1,000 cwt			
Snap beans	49	23	32	64	137	181
Broccoli	437	389	395	589	539	642
Cabbage	553	804	787	719	646	999
Carrots	977	648	641	839	711	852
Cauliflower	260	188	267	414	385	382
Celery	1,273	858	1,036	1,357	1,681	1,508
Sweet corn	808	467	210	162	133	136
Cucumbers	307	398	442	665	789	796
Eggplant	25	10	7	53	85	95
Lettuce	41,835	4,151	4,473	5,637	3,756	3,318
Onions 2/	2,450	2,191	2,195	2,861	2,284	2,070
Bell peppers	309	215	353	486	480	550
Potatoes 3/	8,898	7,474	7,850	10,067	9,646	10,086
Squash	12	12	17	143	354	376
Sweetpotatoes	115	109	332	492	817	504
Tomatoes 4/	2,791	1,496	1,692	2,772	2,153	1,822
Cantaloups	4,159	2,495	1,628	1,124	299	70
Honeydews	1,007	845	715	406	159	87
Watermelons	5,724	1,124	112	27	117	94
Total	34,987	23,997	23,184	28,877	25,171	24,672

1/ Includes imports, exports, and domestic transfer. 2/ Includes only dry onions. 3/ Includes fresh, chipper, and seed potatoes. 4/ Includes cherry tomatoes.

SOURCE: Agricultural Marketing Service, USDA.

Table 11.--Fresh vegetables: Acreage, production, and value, 1983-85

Commodity 1/	Harvested acreage			Production			Value		
	1983	1984	1985 2/	1983	1984	1985 2/	1983	1984	1985 2/
	1,000 acres			1,000 cwt			1,000 dollars		
Asparagus 3/ 4/		89.9	91.2		1.9	2.3		116,463	137,187
Broccoli 3/	92.0	106.5	106.1	8.3	10.3	10.5	210,105	237,884	231,468
Carrots 3/	87.4	93.6	91.5	23.1	23.7	22.9	215,431	247,920	205,081
Cauliflower 3/	54.6	60.8	61.1	5.4	6.7	6.4	139,989	174,931	160,083
Celery 3/	34.8	35.1	34.1	18.3	18.8	18.4	250,239	228,457	185,231
Sweet corn	190.8	193.0	189.0	14.9	15.6	15.7	185,282	204,617	200,399
Honeydews	23.8	23.3	26.0	3.9	4.0	4.8	51,540	55,894	58,006
Lettuce	208.6	221.9	225.9	58.0	64.3	63.2	713,716	706,271	671,662
Onions 3/ 5/	123.0	129.4	122.1	38.8	43.7	44.6	431,906	423,880	345,837
Tomatoes	123.3	122.9	122.2	27.2	28.2	29.2	656,390	722,098	657,564
Total 6/	938.3	986.5	978.0	197.9	217.1	215.7	2,854,598	3,001,952	2,715,331

1/ Due to program modifications, 1983 data for broccoli, carrots, cauliflower, and lettuce are not comparable with 1984 and 1985. 2/ Preliminary. 3/ Includes quantities used for processing. 4/ Estimate reinstated with the 1984 crop. 5/ Value exceeds production not marketed because of shrinkage and loss. 6/ May not add because of rounding.

SOURCE: Vegetables Annual, Statistical Reporting Service, USDA.

Table 12.--Processing vegetables: Acreage, production, and value, 1983-85

Commodity	Harvested acreage			Production			Value		
	1983	1984	1985	1983	1984	1985	1983	1984	1985
	1,000 acres			1,000 tons			1,000 Dollars		
Beans, snap									
Canning	139	154	160	409	465	489	62,553	74,771	78,485
Freezing	57	62	62	178	202	213	31,699	39,164	40,355
Corn, sweet 1/									
Canning	266	284	273	1,326	1,582	1,529	77,294	97,978	93,269
Freezing	133	143	162	901	970	1,111	55,939	64,552	74,028
Cucumbers (pickles) 2/		104	115		618	694		103,823	123,639
Peas, green 3/									
Canning	158	172	182	221	249	296	48,694	57,221	67,312
Freezing	151	159	171	205	246	282	43,495	60,045	71,177
Tomatoes	292	292	266	7,030	7,681	7,177	480,926	517,488	475,709
Total 4/	1,197	1,266	1,276	10,270	11,394	11,097	800,600	911,219	900,335

1/Corn in the husk. 2/ Estimate reinstated with the 1984 crop. 3/ Production and price on a shelled basis. 4/ May not add to total because of rounding.

SOURCE: Vegetables Annual, Statistical Reporting Service, USDA.

Table 13.--Dry edible beans: Production in selected States, by major classes, 1984-85

Type	State									Total	
	MI	ID	WY	NE	WA	CO	NY	CA	Other 1/	1985 2/	1984
	1,000 cwt										
Peas, navy	4,355	--	--	--	--	--	--	--	1,994	6,349	4,966
Great Northern	--	146	29	1,356	--	--	--	--	--	1,531	2,404
Pinto	64	820	452	990	199	2,948	--	--	2,071	7,544	7,286
Red kidney	398	40	--	--	--	--	205	710	139	1,492	1,381
Small red	--	220	--	--	286	--	--	--	--	506	345
Large lima	--	--	--	--	--	--	--	912	--	912	648
Baby lima	--	--	--	--	--	--	--	640	--	640	546
Small white 3/	125	140	--	90	180	--	--	--	--	535	680
Blackeye	--	--	--	--	--	--	--	775	--	775	930
Other	44	100	--	265	13	--	20	205	29	676	729
Pink, Idaho	--	540	--	--	32	--	--	208	14	794	841
Cranberry	261	--	--	--	--	--	--	--	--	261	185
Garbanzo	--	--	--	--	--	--	--	16	--	16	19
Black turtle soup	165	--	--	--	--	--	72	--	--	237	110
U.S. total	5,412	2,006	481	2,701	710	2,948	297	3,466	4,247	22,268	21,070

1/ Includes Illinois, Indiana, Kansas, Minnesota, Montana, New Mexico, North Dakota, and Utah. 2/ Preliminary. 3/ Includes flat small white.

SOURCE: Crop Production, Annual Summary, Statistical Reporting Service, USDA.

Table 14.--Dry edible beans: Annual average price by class, 1979/80-1985/86

Year	Great Northern	Pintos	Small reds	Pinks	Baby lima	Large lima	Blackeye	Small whites	Lt. Red kidney	Garbanzo	Navy
					Dollars/cwt						
1979/80	27.25	31.76	33.06	31.80	21.13	45.58	24.22	26.93	31.22		
1980/81	35.13	35.51	35.87	33.79	39.25	40.68	31.52	38.42	34.46	40.21	33.47
1981/82	26.26	17.82	21.04	18.03	26.78	36.92	31.17	36.16	31.39	47.45	31.88
1982/83	20.15	15.06	18.70	16.96	28.61	32.65	23.19	23.34	22.05	34.96	17.20
1983/84	23.47	21.84	22.28	21.63	26.60	51.07	30.33	29.58	38.47	30.61	26.49
1984/85	20.33	20.28	22.07	19.63	25.97	50.82	28.42	28.66	37.83	32.40	24.89
1985/86	22.24	22.01	23.30	22.22	21.23	37.10	23.29		28.39	35.52	20.80

SOURCE: Bean Market Summary, Agricultural Marketing Service, USDA.

Table 15.--Frozen vegetables: Carryover, pack, seasonal supply, and disappearance, 1980/81-85/86

Commodity and season	Carry-over	Pack	Seasonal supply	Total seasonal shipments
		Million pounds		
Snap beans				
1980/81	91.2	243.9	335.1	254.3
1981/82	80.9	257.4	338.3	269.5
1982/83	68.8	293.3	362.1	275.7
1983/84	86.4	263.2	349.6	268.1
1984/85	81.5	268.5	350.0	274.9
1985/86	75.2			
Sweet corn				
1980/81	120.3	529.1	649.4	594.6
1981/82	54.8	619.4	674.2	610.2
1982/83	64.0	834.3	898.3	706.0
1983/84	192.3	661.2	853.5	729.0
1984/85	124.5	673.6	798.2	677.7
1985/86	120.5			
Green beans				
1980/81	122.5	315.6	438.0	369.2
1981/82	68.8	333.9	402.7	347.7
1982/83	55.0	404.8	459.8	367.3
1983/84	92.5	354.5	447.0	364.5
1984/85	82.5	423.7	506.0	385.9
1985/86	120.3			
Total				
1980/81	334.0	1,088.6	1,422.6	1,218.1
1981/82	204.5	1,210.7	1,415.2	1,227.4
1982/83	187.8	1,532.5	1,720.3	1,349.1
1983/84	371.2	1,278.9	1,650.1	1,361.6
1984/85	288.5	1,365.9	1,654.5	1,338.5
1985/86	316.0			

SOURCE: National Food Processors Association.

Table 16.--Canned vegetables: Carryover, pack, seasonal supply, and disappearance, 1980/81-85/86

Commodity and season	Carry over	Pack	Seasonal supply	Total shipments
		1,000 Cases 24/303's		
Asparagus				
1980/81	1,025	2,535	3,559	2,831
1981/82	728	2,844	3,572	2,924
1982/83	648	2,727	3,375	2,507
1983/84	868	2,549	3,417	2,682
1984/85	735	2,928	3,663	2,871
1985/86	792	3,097	3,889	
Snapbeans				
1980/81	11,293	60,926	72,219	56,301
1981/82	15,918	51,620	67,539	55,163
1982/83	12,376	47,849	60,225	52,271
1983/84	7,954	47,211	55,165	51,044
1984/85	4,121	52,420	56,541	48,396
1985/86	8,145			
Sweetcorn				
1980/81	9,597	50,574	60,171	55,426
1981/82	4,745	57,949	62,694	55,383
1982/83	7,311	60,522	67,833	56,628
1983/84	11,205	51,595	62,800	54,352
1984/85	8,448	56,789	65,237	54,163
1985/86	11,074	55,729	66,803	
Green peas				
1980/81	6,247	30,056	36,303	30,143
1981/82	6,160	27,296	33,456	27,681
1982/83	5,775	24,790	30,565	27,318
1983/84	3,247	20,827	24,074	22,362
1984/85	1,712	23,312	25,024	21,675
1985/86	3,349	29,306	32,655	
Tomatoes				
1980/81	12,313	53,077	65,390	55,116
1981/82	10,275	52,750	63,025	57,049
1982/83	5,976	42,968	48,944	39,653
1983/84	9,291	37,639	46,930	38,227
1984/85	8,703	42,886	51,589	
1985/86	10,970			
Total				
1980/81	40,475	197,168	237,643	199,816
1981/82	37,826	192,459	230,286	198,200
1982/83	32,086	178,856	210,942	178,377
1983/84	32,565	159,821	192,386	168,667
1984/85	23,719	178,335	202,054	127,105
1985/86	23,360	88,132	103,347	

SOURCES: Carryover, Statistical Reporting Service; Pack, American Frozen Food Institute.

Table 17.--Frozen vegetables: Cold storage holdings, 1984-86

Commodity	Jan. 1 1984	Jan. 1 1985	Jan. 1 1986 1/	1986 as percent of 1985
	Million pounds			Percent
Asparagus	6	6	9	150
Lima beans	87	84	103	123
Snap beans	212	190	171	90
Broccoli	71	93	80	86
Brussels sprouts	39	42	44	105
Carrots	186	164	188	115
Cauliflower	71	76	81	107
Sweet corn	543	475	510	107
Mixed vegs.	49	61	54	89
Okra	48	44	41	93
Onions	29	23	27	117
Blackeyed peas	12	11	20	182
Green peas	229	253	316	125
Peas and carrots	10	9	10	111
Spinach	42	43	52	121
Squash	43	42	47	112
So. greens	25	22	24	109
Other vegs.	180	219	249	114
Total 2/	1,882	1,857	2,026	109
Potatoes	773	892	1,008	113
Total 2/	2,655	2,749	3,034	110

1/ Preliminary. 2/ May not add to total because of rounding.

SOURCE: Cold Storage, Statistical Reporting Service, USDA.

Table 18.--Potatoes: January 1 total stocks by areas, 15 major States, 1975-85

Crop year	Eastern States	Central States	Western States	Total 1/
	Million cwt			
1975	26.5	27.4	102.4	156.2
1976	26.5	29.1	116.7	172.3
1977	28.1	36.7	110.5	175.3
1978	25.7	40.3	127.5	193.5
1979	29.4	33.7	112.9	176.0
1980	22.5	26.6	98.0	147.0
1981	24.6	33.9	105.9	164.4
1982	27.7	37.2	114.1	179.0
1983	22.0	35.9	107.5	165.3
1984	21.9	40.8	110.7	173.4
1985	26.8	45.5	129.0	201.3

1/ May not add to total because of rounding.

SOURCE: Potato Stocks, Statistical Reporting Service, UDSA.

Table 19.--Potatoes: Processing use in major States, 1977/78-85/86 1/

Season	To January 1	Entire season
	1,000 cwt	
1977/78	47,730	123,975
1978/79	45,915	124,265
1979/80	41,745	115,645
1980/81	41,325	105,950
1981/82	51,750	127,000
1982/83	48,710	122,750
1983/84	48,115	121,055
1984/85	58,920	136,635
1985/86	59,555	

1/ Includes Idaho, Washington, Oregon, Maine, North Dakota, Minnesota, and Michigan during 1977/78 through 1980/81. Also includes Wisconsin beginning in 1981/82.

SOURCE: Potatoes and Sweetpotatoes, Annual and Estimated Potato Stocks, Statistical Reporting Service, USDA.

Table 20. Pulses: U.S. exports, 1982/83-84/85

Crop/variety	Total seasonal 1/ 1982/83	Total seasonal 1/ 1983/84	Total seasonal 1/ 1984/85
	Million pounds		
Dry beans			
Navy	196.5	139.0	138.4
Great Northern	151.8	84.9	121.3
Pinto	31.5	55.1	143.5
Other	202.3	201.1	232.6
Total	582.0	480.1	635.8
Dry peas	307.5	290.4	287.6
Lentils	110.1	78.0	69.4
Total pulses	999.6	848.5	992.8

1/ September to August crop year.

SOURCE: Bureau of Census, Dept. of Commerce.

Table 21.--Canned mushrooms: Imports, total and selected countries, 1983-85

Countries	July-June 1983-1984	July-June 1984-1985	July-Nov. 1984	July-Nov. 1985
		Million pounds		
China, Mainland	44.1	38.7	15.0	17.8
China, Taiwan	51.3	50.0	24.4	15.2
Hong Kong	20.8	19.0	7.5	15.4
Korea, Republic of	10.5	10.1	3.4	3.2
Other	20.7	19.4	9.9	7.4
World total	147.4	137.2	60.2	59.0

SOURCE: Foreign Agricultural Service, USDA.

Table 22.--Mushrooms: Production, use ,and value, 1980/81-1984/85 1/

Season	Production	Processing use	Fresh market	Farm value	Imports
		Million Pounds		Million Dollars	
1980/81	470	195	275	374.5	156
1981/82	517	198	319	418.7	157
1982/83	491	154	337	431.4	200
1983/84	562	173	388	486.4	252
1984/85	596	176	420	493.6	313

1/ All values are on fresh equivalant basis.

SOURCES: Mushroom, Statistical Reporting Service, USDA, and Bureau of Census.

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